Technics

DC Servo Automatic
Turntable System

'82

SL-3

Operating Instructions

T4P is the standard mark for plug-in-connector type. Products carrying this mark are interchangeable and adaptable among each other.

This apparatus was produced to "BS800: 1977"

Before operating this product, please read these instructions completely.

We want to thank you for selecting the SL-3.
For optimum performance, we recommend that you read these instructions carefully.

Note:
The operating instructions are commonly applicable to units of different colors.

Caution for safe use of this apparatus of UNITED KINGDOM model SL-3.

Caution:
This apparatus is double insulated, safety earth not required.

Important
The wires in this mains lead are coloured in accordance with the following code:

Blue:	**Neutral**
Brown:	**Live**

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.
The wire which is coloured **BLUE** must be connected to the terminal which is marked with the letter **N** or coloured **BLACK**. The wire which is coloured **BROWN** must be connected to the terminal which is marked with the letter **L** or coloured **RED**.

This equipment should be disconnected from the mains when not in use.

■ **Checklist of parts**

Turntable unit	1
Turntable mat	1
Mains cord	1
Phono cable	1
Ground earth wire	1
25 cm record adaptor	1

Do not stand this unit on its side or turn it upside down when making connections as the turntable mat could come loose and damage the stylus. Make all connections to this unit before removing the packing materials.

Connections

Use the stereo phono cable to connect the turntable to your amplifier or receiver. Be sure that the white plugs are connected to the left channel sockets and the red plugs are connected to the right channel sockets. Plug the ground earth wire into the turntable's ground socket and connect the wire's spade lug to the amplifier or receiver's ground (GND) screw. Regarding the mains cord, plug the female end into the turntable AC socket and plug the other end into an AC wall socket. **(Fig. 1)**
Note that hum may occur if you neglect to connect the ground wire.

Note:
When connecting the ground earth wire to the turntable, be careful not to connect it to the turntable's synchro-rec terminal by mistake.

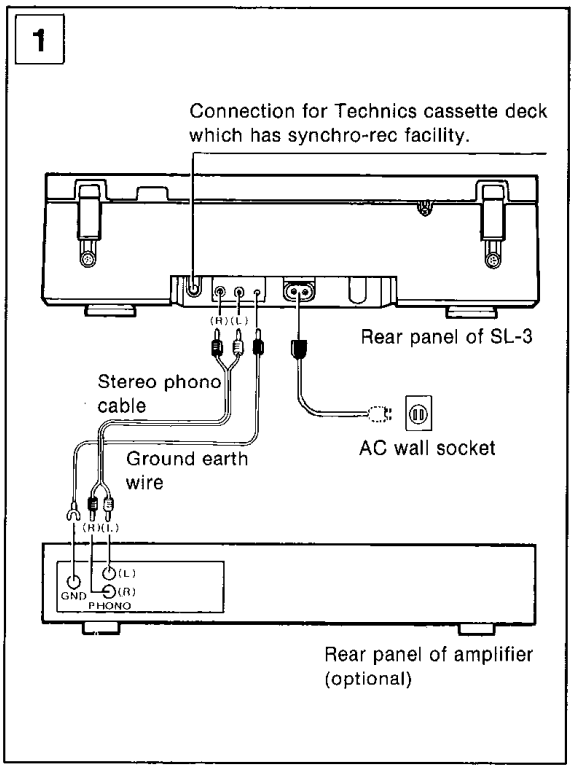
Before use

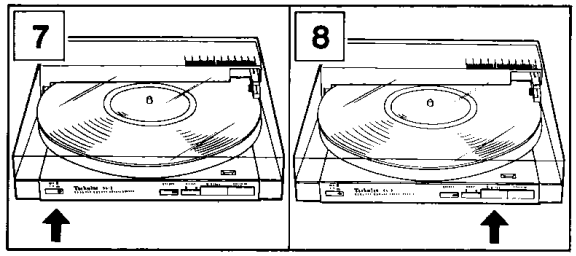
In order to avoid damage due to vibration or shock incurred during shipment, this unit is packed with protective materials Ⓐ, Ⓑ and Ⓒ. Be sure to remove these before use. Keep these materials for reuse should it become necessary to transport the turnbable again.

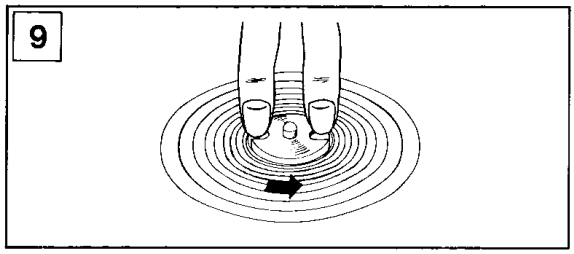
1. Remove turntable spacers Ⓐ1~Ⓐ3. **(Fig. 2)**
2. Holding the belt by the ribbon, fit the belt over the capstan. **(Fig. 3)** Then remove the ribbon.
3. Pull off the tonearm protection spacer Ⓑ. **(Fig. 4)**
4. Remove tape on side of cartridge Ⓒ. **(Fig. 5)**
   (This prevents the stylus assembly from shaking loose during shipment.)
5. Place the turntable mat on the platter. **(Fig. 6)**
   The mat has an opening which must be lined up with the raised section (the record detector) of the platter.

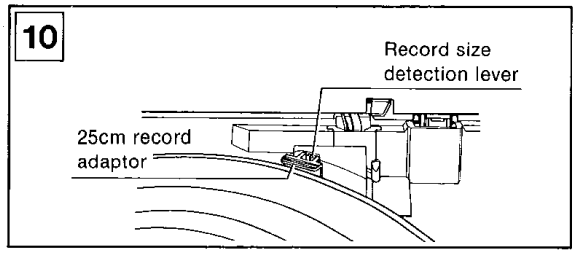
Placement

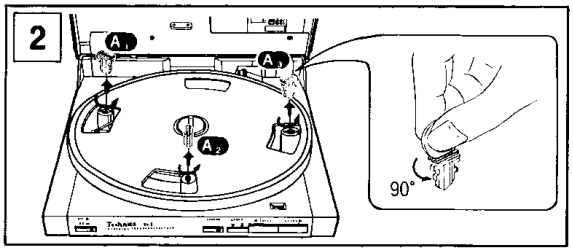
- **Place the unit in a stable and horizontal position where there is little or no vibration.**
- **Place the unit away from the speakers so that it will be subject to as little direct sound radiation as possible.**
- **Do not use or store this unit where it will be exposed to dust, dirt, high humidity or high temperature. Do not place it near heaters.**
- **Place it in a well ventilated location.**
- **Do not use under direct sunlight, spotlights, or other extremely bright light sources.**
- **Do not place it near or on top of a power amplifier, since power amplifiers radiate much heat.**
- **Place the turntable away from the power amplifier to prevent hum.**
  Hum may be caused by leakage flux from the transfomer in the power amplifier (or integrated amplifier). Therefore, if you notice hum, try moving the turntable to a slightly different location, further away from the amplifier.
- **If you try to listen to a radio near the turntable while it is turning, you may hear some interference.**

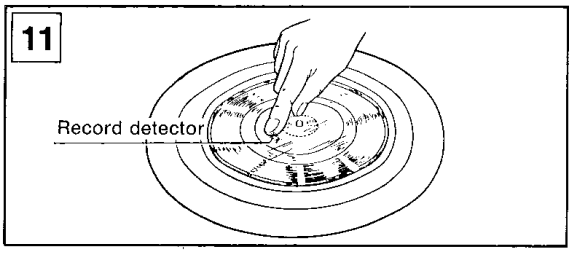

1
Connection for Technics cassette deck which has synchro-rec facility.
Rear panel of SL-3
Stereo phono cable
AC wall socket
Ground earth wire
(R)(L)
GND
PHONO
Rear panel of amplifier (optional)

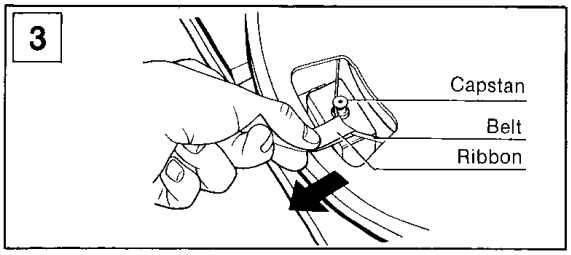

7
8

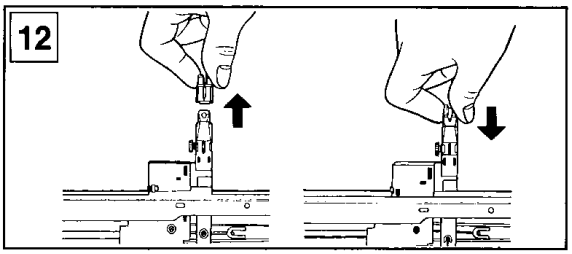

9

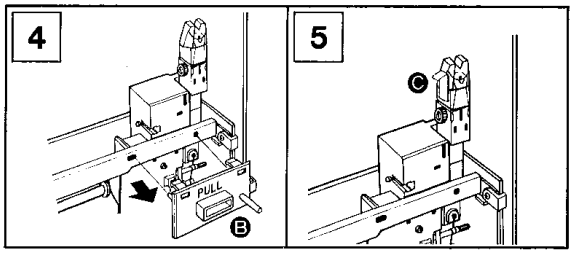

10
Record size detection lever
25cm record adaptor

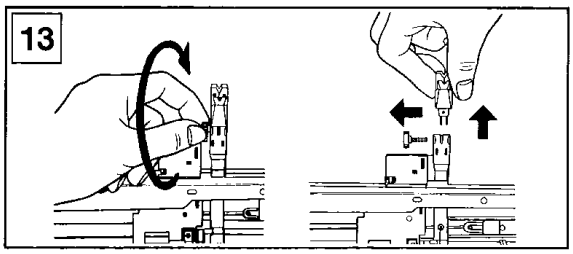

2
90°

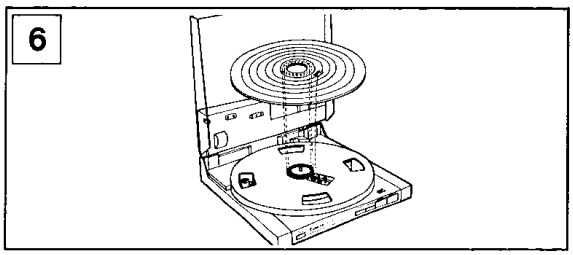

11
Record detector

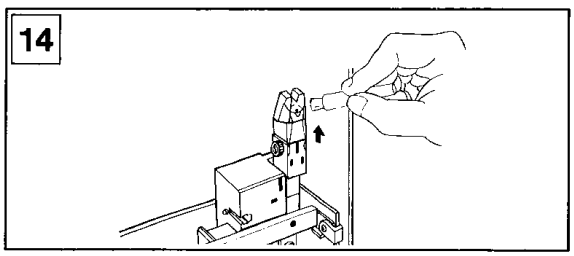

3
Capstan
Belt
Ribbon


12

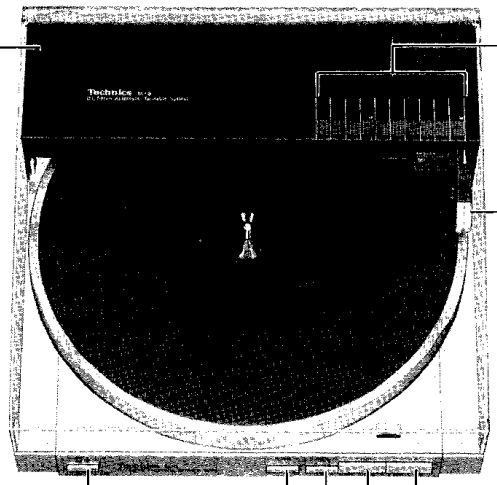

4
PULL
B
5
C


13

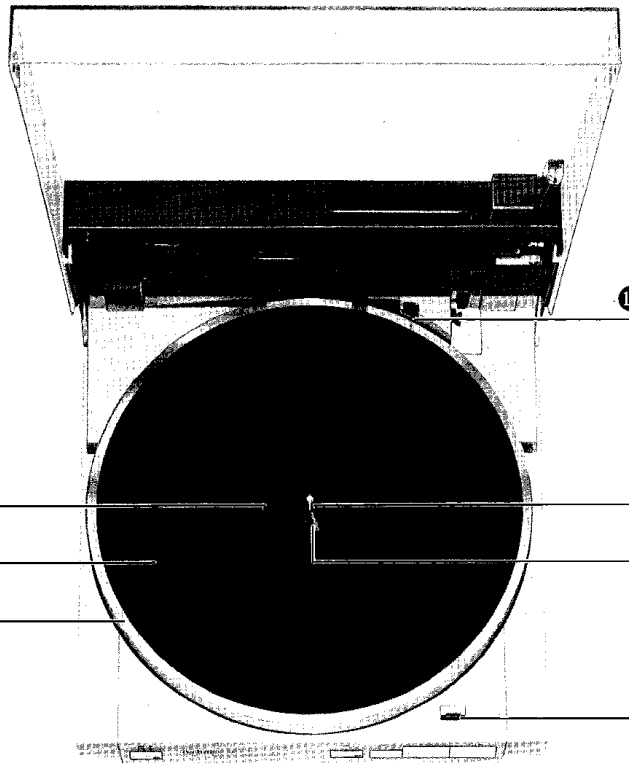

6


14

Parts identification



❶ Upper cabinet
❷ On/off switch
❸ Record groove scale
❹ Cartridge
❺ Stop switch
❻ Start switch
❼ Cueing control
❽ Repeat switch



❾ Record detector
❿ Turntable mat
⓫ Turntable platter
⓬ Record size detection lever
⓭ Center spindle
⓮ 45 rpm adaptor
⓯ Speed selector

Functions

❶ Upper cabinet (Dust cover):
(Contains tonearm drive mechanism.)
Must be closed during play.

❷ On/off switch:
off: This symbol indicates the **"stand-by"** mode, which means that when the switch is in this position, the unit is switched off but not entirely.
on: This symbol indicates **"on"**. Push to switch the unit on. Push again to switch the unit to the stand-by mode.

❸ Record groove scale:
This scale is graduated in 1 mm indications.
Useful for judging tonearm position.

❹ Cartridge
Replacement stylus: EPS-24CS

❺ Stop switch:
For stopping paly (reject) and outward cueing.
When you press the stop switch (for less than one second), the tonearm automatically returns to the start position. (auto-return)
If you keep the switch depressed (for more than one second), the tonearm will move outward toward the edge of the record.
If you press the cueing control to raise the tonearm, and then press the stop switch intermittently, the arm will move outward in approximately 1 mm steps.

❻ Start switch:
For beginning play (auto-start, auto-lead-in) and inward cueing.
When you press the start switch, the tonearm automatically moves to the record's lead-in groove and starts playing. (auto-start, auto-lead-in)
If this switch is pressed during play, the tonearm will return to the start position and begin playing it over again.
If you keep the switch depressed, the tonearm moves inward toward the center of the record.
The tonearm will not move when you press the start switch if there is no record on the platter.

❼ Cueing control:
For interrupting play
Pressing the cueing control during play causes the tonearm to rise off the record. To resume play, press the control again.

❽ Repeat switch:
For repeat play
When you press the repeat switch, an LED lights up and the record is played repeatedly from beginning to end.
When you want to stop this cycle, merely press the repeat switch again.
Pressing the stop switch will cause the tonearm to rise and return to the start position; it will also stop repeat operation.

❾ Record detector

❿ Turntable mat:
Do not use any turntable mat except the one supplied.

⓫ Turntable platter

⓬ Record size detection lever:
Do not touch. This lever operates automatically to detect record size (30 cm, 17 cm).

⓭ Center spindle

⓮ 45 rpm adaptor:
For 45 rpm EPs
Press down lightly on the adaptor while turning counter-clockwise and the adaptor will pop up ready for use.
After use, press down and turn clockwise.

⓯ Speed selector:
At the auto position, correct speed is selected automatically. However, speed must be manually selected in the case of 30 cm 45 rpm or 17 cm 33-1/3 rpm discs.

Operation

Operation	Effect	Notes
■ Auto-play		
① Open the upper cabinet gently. ② Place a record on the turntable mat. ③ Set the speed selector to the auto position. ④ Close the cabinet gently. ⑤ Press the on/off switch to the on (▂) position. **(Fig. 7)**		• Do not press controls until upper cabinet is closed. • For proper operation, wait about two seconds after pressing the on/off switch before pressing any of the other switches. (This assures dependable and accurate operation.)
⑥ Press the start switch. (for less than 1 second) **(Fig. 8)**	• The tonearm automatically selects the record size and speed (for 30 cm and 17 cm records only) and begins record play. • At the end of the record the tonearm rises and automatically returns to the start position.	• If no record is on the platter, it will stop after a few rotations and a clicking noise will be heard, indicating that there is no record; the tonearm does not move in this case. • If you press the start switch for less than one second while a record is being played, the tonearm returns to the lead-in groove and begins playing the record again. The LED of the repeat switch flashes on and off to indicate that this is happening.
⑦ After the tonearm returns to the start position, press the on/off switch to turn off the unit (▁).		• If the top cabinet is opened while a record is being played and then closed again immediately afterward, the stylus may drop onto the record and be damaged. When opening the top cabinet to change records, always press the stop switch first to return the tonearm to its starting position. (When this occurs, the record size detection lever will make a noise as it touches the record; this does not indicate a malfunction.) • If the on/off switch is turned off during play, the tonearm rises above the record and stays at that position. Then when the unit is turned on again, the tonearm will return to the start position.
■ Search		
(Moving the tonearm inward and outward) • If you press the start switch or stop switch continuously (for more than 2 seconds)... • If you then press intermittently (after pressing continuously for more than 1 second)... • When you stop pressing... • Press the cueing control.	• The tonearm will rise above the record surface and moves slowly inward or outward for about 1 second, and then move fast. • The tonearm will move inward or outward in small steps. • The tonearm will stop. • The tonearm will descend onto the record surface and begin playing the record.	• Note that operation depends on how these switches are pressed. • If the start switch is pressed for less than 1 second, play begins. • If the stop switch is pressed for less than 1 second, all functions are cancelled. • The search function can only be used to move the tonearm between the innermost and outermost (lead-in) grooves of the record being played. Therefore, search cannot be used to return the tonearm to the start position when a 17 cm record is on the platter. To return the tonearm to the start position, first press the cueing control to lower the tonearm onto the record. Then press the stop switch for less than 1 second.

Operation	Effect	Notes
■ Repeat play		
Follow steps ① through ⑤ in "Auto-play" section. ⑥ Press the repeat switch. ⑦ Press the start switch.	• The repeat indicator LED will light up and the record will be played repeatedly. • Repeat play will continue until the repeat switch is pressed again.	• The repeat switch may be pressed before or during play.
■ Playing 45 rpm EPs (large center-hole)		
• Press lightly on the adaptor and turn counterclockwise. **(Fig. 9)**	• The adaptor will pop up. Speed and size selection are automatic so operate the turntable as usual, referring to the operating instructions as necessary.	
■ Playing 45 rpm LPs and 33-1/3 rpm singles (17 cm)		
• Set the speed selector to the correct position (33 or 45). 	• In this case, speed is not selected automatically. • However, record size is still detected automatically, so operate the turntable as usual, referring to the operating instructions as necessary.	• Remember to set the selector to the "auto" position after playing monoral records. Otherwise, other records will also be played at the manually selected speed and automatic speed selection will not take place.
■ Temporary interruption of play		
• Press the cueing control to interrupt play. • Press again to resume play.	• The tonearm will rise above the record surface. • The tonearm will be lowered back onto the record surface.	
■ Stopping play		
• Press the stop switch (for less than 1 second).	• The tonearm will rise and return to the start position and the turntable will stop.	• Pressing the stop switch will only cause play to stop if the switch is pressed for less than 1 seceond during play (when the stylus is in the grooves). Otherwise (when the tonearm is above the record surface), search operation will take place.

■ The turntable may not perform as expected when playing the following kinds of records. This does not mean that there is anything wrong with the turntable. In such cases, follow the directions below.

Record	Operation	Notes
■ 25 cm records. **■ 17 cm records that do not meet the industry standard dimensions. (Too big)**	1. Use the accessory adaptor for 25 cm records, as shown in the illustration **(Fig. 10)**, hold the record size detector in place (so it doesn't move), and put on the desired record. 2. Hold down the start switch so that the tonearm moves over to a position above the desired record's lead-in grooves. 3. Push the cueing control. Speed will be set to 33 rpm automatically.	• This adaptor makes the turntable operate as if it were playing a 30 cm record. Therefore, if you simply press the start switch, the tonearm will set down on the empty part of the platter. You must keep the start switch held down until the tonearm moves over to a position above the lead-in grooves of your record, then press the cueing control to begin play. • Be sure to remove the adaptor when playing ordinary records. **• Repeat play is not possible for 25 cm records or records that do not meet the industry standard dimensions because size is not automatically detected.** **• Set the speed selector to 33 or 45 depending on the correct speed for the record in question.** **• In some cases it is not possible to play records that do not meet the industry standard dimensions.**
■ 17 cm records that do not meet the industry standard dimensions. (Too small)	1. Use the search (manual) function to move the tonearm to the desired position, then press the cueing control. Speed will be set to 45 rpm automatically.	
■ Light, thin or badly warped records.	1. Ensure record detector is activated by pressing record down on to turntable. **(Fig. 11)** 2. Operate according to the directions in the auto-play section.	

Replacement of stylus

Note:
Be sure you have the amp volume knob turned down all the way to avoid amplification of shock noise produced when handling the stylus and cartridge.
This unit is equipped with a diamond stylus.
The replacement stylus for this cartridge is EPS-24CS.
The life of the stylus varies according to the conditions of use. Noise or scratchiness may indicate a worn or damaged stylus. To prevent damage to your records, the stylus should be replaced at the first sign of wear.
You will have easier access to the stylus with the tonearm toward the center.
Therefore, follow the instructions below.

1. Place a 30 cm record on the turntable mat and close the cabinet.
2. Push the on/off switch to the on position (▂).
3. Hold down the start switch until the tonearm moves over to about the 25 cm position.
   (Having the tonearm in this position makes it easier to change the stylus.)
4. Push the on/off switch to the off position (▁) and open the cabinet. (If you open the top before turning off the on/off switch, the tonearm will return to the start position. Turn off the on/off switch before opening the top.)
5. Remove the old stylus. **(Fig. 12)**
6. Push in the new stylus assembly. **(Fig. 12)**

Replacement of cartridge

Plug-in connector cartridges are now available from Ortofon (Denmark), Shure (U.S.A.), Audio Technica (Japan) as well as from Technics. All of these cartridges are designed for perfect matching with this turntable in all areas including weight, tracking force, stylus tip position, and center of gravity. Therefore, you have the option of employing a wide range of cartridges from the world's top manufacturers without the trouble of lead wire connections or tracking force adjustment.

1. Move the tonearm to the center of the platter by following the steps mentioned (Replacement of stylus).
2. Loosen the cartridge mounting screw completely, and remove the cartridge. **(Fig. 13)**
3. Insert the new cartridge firmly into place.
4. Tighten the mounting screw.

Notes and maintenance

- **Auto-return operation will not function if you press the on/off switch while a record is being played.**
  The tonearm will rise above the record surface but stay where it is.
  Therefore, if you then press the switch again to turn it on, the tonearm will go back to the start position.

- **Be sure to remove all dirt and dust from the stylus tip and the record.**
  The cartridge stylus is an extremely delicate and precisely manufactured device designed for picking up the subtle nuances of the record grooves. Therefore, be very careful not to touch it, push on it, or apply excessive force in any way.
  The stylus tip cannot retain proper groove contact when it is dirty. This causes bad sound reproduction and excess wear on the stylus tip and grooves. Therefore, use the brush to remove dust and dirt by brushing upward. **(Fig. 14)**
  Also, use a good record cleaner to remove dust and dirt from the grooves.

- **Wipe the cabinet with a soft, dry cloth.**
  Never use volatile cleaners such as alcohol, benzine or thinner.
  Do not use chemically treated dust cloths. Do not expose the panel to insecticide spray.
  To remove stubborn spots, first pull out the AC plug.
  Then wipe the cabinet with a soft cloth slightly moistened with a mild soap and water solution.
  Do not wipe the upper cabinet during play, or the tonearm may be attracted toward the upper cabinet due to the generation of static electricity.

- **Open the upper cabinet gently.**

- **Always close the upper cabinet completely.**
  If the upper cabinet is not completely closed, the stylus cannot contact the grooves properly and turntable will not operate correctly.
  Check again before starting play.

- **Unplug from AC outlet if unit will not be used for an extended period of time.**

- **Concerning speed adjustment:**
  There is no need for speed adjustment. The unit was adjusted at the factory.

Suggestions for safety

Before using this unit, be sure to read applicable items of the operating instructions and these safety suggestions carefully; and afterwards keep them handy for future reference. Take special care to follow the warnings indicated on the unit itself as well as in the operating instructions.

1. **Avoid places where there is water or humidity.**
   Do not use this unit near a bathtub, washbasin, swimming pool, or the like. Damp basements should also be avoided.
2. **Do not allow water or any foreign object to get inside this unit.**
   Do not place small metal objects or anything containing liquid on or near the unit.
3. **Avoid placement of the unit where it will be exposed to the direct rays of the sun, or where ventilation is inadequate.**
   Do not place this unit in a bookcase or between cabinets, unless proper ventilation is provided, or where curtains or furniture may obstruct the ventilation holes.
4. **Place this unit away from heat-emitting appliances.**
   Never place this unit on or near a radiator, heat register, stove, or any other heat-emitting equipment (including amplifiers).
5. **Placement**
   Place the unit on a stable, vibration-free, level shelf or stand.
6. **Check the voltage rating of this unit before connecting the unit to a power source.**
   Be sure to connect the unit only to the type of power source indicated in the operating instructions, or as indicated on the unit itself.
7. **Care of the mains cord and plug.**
   Take care that the cord is not bent sharply (especially near its connection to the unit or near the plug), that nothing is placed on it, and that it is not pinched or crushed or frayed. Never take hold of the plug or cord if your hand is wet, and always be sure to grasp the plug body when connecting or disconnecting it.
8. **Maintenance**
   Refer to the operating instructions for details.
9. **Repairs**
   Except for adjustments explained in the operating instructions, do not attempt any repairs yourself. Be sure to request service from a qualified technician (or your dealer or nearest servicenter).

Specifications

■ General

Mains supply:	240 V AC, 50 Hz
Power consumption:	7 W
Dimensions:	31.5 × 8.8 × 31.5 cm
(W×H×D)	(12-1/2" × 3-1/2" × 12-1/2")
	31.5 × 39 × 31.5 cm
	(12-1/2" × 15-23/64" × 12-1/2")
	(Maximum height when top (dust cover) is open.)
Weight:	3.2 kg (7.1 lb.)

■ Turntable section

Type:	Automatic turntable
	Auto start/Auto lead-in
	Auto return
	Auto stop
	Repeat play
	Auto speed select
	Manual speed selection possible
	Auto size select
	Record presence detection
Drive method:	Belt drive
Motor:	DC motor
Drive control method:	DC servo control
Turntable platter:	Aluminum die-cast
	Diameter 30 cm (12")
Turntable speeds:	33-1/3 rpm and 45 rpm
	Auto speed select
	(Manual selection possible)
Wow and flutter:	0.045% WRMS (JIS C5521)
	±0.06% peak
	(IEC 98A Weighted)
Rumble:	−70 dB (IEC 98A Weighted)

■ Tonearm section

Type:	Dynamic balanced type
	Linear tracking tonearm
	4-pivot gimbal suspension
Effective length:	10.5 cm (4-1/8")
Tracking error angle:	Within ±0.1°
Effective mass:	9 g (including cartridge)
Resonance frequency:	12 Hz
Tonearm drive motor:	DC motor
Phono cable capacitance:	150 pF

■ Cartridge section

Type:	Moving magnet stereo cartridge
Magnet circuit:	All laminated core
Frequency response	10 Hz~30 kHz
	20 Hz~10 kHz ±1 dB
Output voltage:	2.5 mV at 1 kHz, 5 cm/s. zero to peak lateral velocity
	(7 mV at 1 kHz, 10 cm/s. zero to peak 45° velocity [DIN 45 500])
Channel separation:	22 dB at 1 kHz
Channel balance:	Within 2 dB at 1 kHz
Recommended load impedance:	47 kΩ~100 kΩ
Compliance (dynamic):	12×10^{-6} cm/dyne at 100 Hz
Stylus pressure range:	1.25 ±0.25 g (1.25± 2.5 mN)
Weight:	6 g (cartridge only)
Replacement stylus:	EPS-24CS

Specifications subject to change without notice.
Weight and dimensions shown are approximate.

Quick Reference Chart for Start and Stop Operation

Switch pressed / Cueing up/down	Start Switch				Stop Switch			
	Pressed momentarily (less than one second)	Pressed intermittently	Pressed continuously		Pressed momentarily (less than one second)	Pressed intermittently	Pressed continuously	
			(about 1 second)	(more than 2 seconds)			(about 1 second)	(more than 2 seconds)
Cueing up (▼)	———	Tonearm moves inward in small steps.	Tonearm moves inward.	Moves faster.	———	Tonearm moves outward in small steps.	Tonearm moves outward.	Moves faster.
Cueing down (▼)	Tonearm rises and returns to start position and begins lay again.	———	Tonearm rises and moves inward.	Tonearm rises and moves faster.	Auto-return (reject)	———	Tonearm rises and moves outward.	Tonearm rises and moves faster.

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

EK

Printed in Japan

SFNUC02G01
S1182Y0